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Plural marking in French NA/AN combinations: What *liaison* can tell us

Keywords: Nominal plural inflection, French *liaison*, adnominal adjectives, proper names, corpus study (PFC)

Abstract:

Our paper discusses different patterns of plural marking in N(oun)A(djective)/A(djective)N(oun)-combinations in phonic French. We first show, based on previous observations, that French has incomplete plural agreement in complex nominal phrases and that there is a striking asymmetry between AN-combinations (plural marking on the determiner and prenominal adjectives via *liaison*, where possible) and NA-combinations (usually, only plural marking on the determiner and infrequent *liaison* between N and postnominal A). In order to understand this discrepancy, we have analyzed all the occurrences of AN and NA in two French corpora and found a strong tendency for *liaison* in NA only to appear systematically and independently from register variation in ‘proper-name like’ expressions such as *Jeux Olympiques* ‘Olympic Games’ ([ʒøzølēpik]). In a third step, we discuss this empirical finding and consider it synchronically as a case of morphophonological ‘proper name marking’ (cf. Nübling 2005).

1. Introduction

In the phonic (= spoken, as opposed to the graphic/written modality)¹ realization of French, the phenomenon of *liaison* is one of the most striking *sandhi* phenomena of this language. *Liaison* is understood here as the overt realisation of a latent word-final² consonant which (in a specific syntactic/prosodic context) is not pronounced before a following word-initial consonant, but is realized in front of a following word-initial vowel (see the examples under (1) below). French has several latent consonants; the most frequent ones are [z, t, n]. For the following discussion, only [z] will be of interest. Concerning NA/AN-combinations in French, there is a striking asymmetry in what looks like inflectional plural marking via *liaison*: whereas prenominal adjectives generally show the realization of the latent consonant [z] in front of a noun with vocalic onset, this does not hold for a plural noun preceding an adjective with vocalic onset. Leaving the determiner aside, in (1a) and (1b), there is only one plural marking, i.e. a suffix on the prenominal adjective *petit*, or, alternatively, a plural prefix on the noun *enfants*. In NA-combinations, things are different. In (1c), for example, *liaison* is more likely to be omitted (the plural is thus marked neither on the noun nor on the adjective), whereas in (1d), *liaison* takes place almost without exception. That is, in NA-combinations, *liaison* is somehow restricted (cf. e.g. Delattre 1966, Ågren 1973: 5, 124, Morin and Kaye 1982: 294-295, Post 2000, Laks 2005: 104, 106, Bybee 2005, Ranson 2008, Meinschäfer et al. 2015).

(1) AN-combination

- | | | | | |
|----|-----------------------|-------------------------|------------------------------|-----------------------------------------------|
| a. | <i>le-s</i> | <i>petit-s</i> | <i>enfant-s</i> ³ | generally with <i>liaison</i> between A and N |
| | def-PL | small[M]-PL | child(M)-PL | |
| | [l-e | p(ə)ti- z | ãfã] | |
| | def-PL | little[M]-PL | child(M) | |
| | ‘the little children’ | | | |
| b. | <i>le-s</i> | <i>petit-s-enfant-s</i> | | generally with <i>liaison</i> between A and N |
| | def-PL | small[M]-PL-child(M)-PL | | |
| | [l-e | p(ə)ti- z -ãfã] | | |
| | def-PL | little[M]-PL-child(M) | | |
| | ‘the grandchildren’ | | | |

¹ Even if *phonic* and *graphic* are not familiar expressions to refer to the medial, modality-based opposition between spoken vs. written, we adhere to this terminology, as *spoken* and *written* are polysemous adjectives and very often refer to informal (*spoken*) vs. formal (*written*) uses of language (cf. also the notions of *Nähe* and *Distanz* of Koch and Oesterreicher 2011).

² For a very good overview of five competing approaches to analyze the status of this *liaison* consonant see Côté (2011, chapter 3).

³ Note that *enfants* is only orthographically a plural form. Our argument is based exclusively on the phonic level (never on spelling). In our glossing, we follow the *Leipzig Glossing Rules* except for those features which are never realized (only on the graphic level), such as the plural in *adorables* in example (1c). Based on a realizational approach to morphology we will argue in this paper that the categorical non-realization of a feature value is equivalent to the absence of this feature in the respective item. For example, it is commonly assumed that *beautiful* in *the beautiful girls* is an element unable to inflect for number; most probably, nobody would say that *beautiful* is in its underlying form plural and that the value is just not overtly realized (i.e. the gloss would be simple *beautiful* rather than *beautiful*[F.PL]).

NA-combination

- c. *le-s enfant-s adorable-s* rather without *liaison* between N and A
 def-PL child(M)-PL adorable[M]-PL
 [l-ez ăfă adɔrabl]
 def-PL child(M) adorable[M]
 ‘the adorable children’
- d. *le-s Nation-s Uni-e-s* rather with *liaison* between N and A
 def-PL nation(F)-PL united-F-PL
 [l-e nasjɔ̃-z yni]
 def-PL nation(F)-PL united[F]
 ‘the United Nations’

A major difference between examples (1a) and (1b) lies in their semantics: (1b) has clearly a non-compositional reading, whereas (1a) denotes a group of little children and has thus a compositional reading. (1c) again has a compositional reading, whereas *Nations Unies* in (1d) (even though it can be read compositionally) denotes most probably the specific United Nations. In this non-compositional reading, *liaison*-[z] is almost categorical.

It is clear that the patterns of plural marking observed under (1) are in some way deviating agreement patterns, and they will turn out not only to be correlated generally with a higher degree of “lexicalization”,⁴ as is traditionally assumed, but in most of the attested cases of our corpus study (see Section 3) with a special function, the marking of ‘proper-name-hood’ (cf. Nübling 2005 for a typological overview). We face thus the maintenance of a *liaison* consonant in frequently co-occurring lexical items, the frequency being caused by the items forming a complex proper name without compositional readings available, which has subsequently been reanalyzed as a marker of namehood. The present contribution is to our knowledge the first time after Matushansky (2008) and Bosredon (2011) that the morphological structure of *complex proper names* in Romance (French) is systematically taken into consideration.

In Section 2 of this paper, we will present the most important facts about French *liaison* in the context of nominal plural marking in AN/NA-combinations. In Section 3, we will turn to a corpus analysis of French *liaison* facts in NA/AN-combinations in two corpora, which will show a specific *liaison* pattern for proper-name like expressions, a fact usually not mentioned in the literature. Section 4 attempts to discuss these findings in the light of research on proper name marking (Nübling 1998, 2005). We will conclude that there is a diachronic loss of *liaison* in French NA-combinations, as opposed to AN-combinations, and that the maintenance of the *liaison*-[z] in proper-name like expressions such as *Jeux Olympiques* is a kind of ‘frozen’ morphology which can be seen as assuming a new synchronic function, i.e. proper-name marking or at least the marking of a clearly non-compositional reading.

2. French *liaison* in plural AN/NA-combinations: A brief overview

With respect to nominal plural marking in French, it is important to emphasize that in spoken, i.e. phonetically realized, French sentences, overt plural morphology in nominals is generally extremely reduced when compared with other Romance languages (cf. Stark 2008). In fact, in the majority of French DPs, only the determiner carries overt number marking (cf. e.g. Bouchard 2002). That is, plural marking is not overt in many adjectives and nouns when pronounced in isolation, with the exception of a group of masculine forms exhibiting vocalic alternation such as [-al]_{SG} ~ [-o]_{PL}, e.g. *cheval* ‘horse’ ~ *chevaux* ‘horses’; overt plural marking on adjectives and nouns is thus in some cases at most lexically determined⁵ and no regular uniform morphological rule exhibiting one clear plural exponent exists in phonic French (cf. Pomino forthcoming). For most French DPs, it is only in *liaison* contexts that adjectives and nouns can potentially bear an at least apparently plural marker in the form of [z]. Although *liaison* is certainly not only a morphophonological phenomenon,⁶ its occurrences in the contexts we discuss below are overwhelmingly assumed to be cases of plural marking (cf. e.g. Bybee 2005).

With respect to AN/NA-combinations, *liaison* is described as being almost obligatory for AN (at least for plural marking), but only optional and quite rare in spoken (informal) French for NA⁷ (cf. e.g. Ågren 1973: 5, 124, Morin

⁴ Lexicalization may imply in some cases semantic opacity or “idiomatization”, i.e. non-compositionality, but does not necessarily have to (cf. Bauer 1983: 49).

⁵ See Bonami and Boyé (2005: 91-92) for a detailed discussion.

⁶ Cf. Durand and Lyche (2008: 34): “Based on extensive data drawn from a minimum of ten investigation points and one hundred informants, we will argue that *liaison* cannot be seen as a single phonological process, but that it is partly morphosyntactic, partly phonological, partly phonetic and partly the result of the speaker’s knowledge of the orthographic system, particularly in the areas most sensitive to sociostylistic variation.”

⁷ *Liaison* in this context is sometimes said to be frequent, however, in “elevated” style, cf. Morin and Kaye (1982: 293), Laks (2005: 106) and is found even between two postnominal adjectives (cf. Morin and Kaye 1982: 313-

and Kaye 1982: 294-295, see also e.g. Delattre 1966, or more recently Post 2000, Laks 2005: 104, 106, Bybee 2005, Ranson 2008, Meinschäfer et al. 2015 for a study on the C-ORAL-Rom corpus, cf. Cresti and Moneglia 2005). Furthermore, there is almost never *liaison* between the last element of a noun phrase, e.g. a postnominal adjective, and the following constituent (VP or other constituent), at least not in unmarked style. Thus, apparently, most postnominal adjectives in French quite systematically lack full (or overt) number inflection, showing (almost) no *liaison* with a following constituent (cf. (2b)); the same holds for the noun in AN-structures in general (cf. (2a)). Prenominal adjectives, however (cf. (2a)), are usually fully inflected for number. This holds also for examples in (3), which cannot be read fully compositionally.⁸

(2) Plural marking via *liaison* in free syntactic sequences

a. Plural is marked on D and on the prenominal A

<i>le-s</i>	<i>savant-s</i>	<i>anglais</i> ⁹	<i>le-s</i>	<i>petit-s</i>	<i>enfant-s</i>
def-PL	wise(M)-PL	English[M.PL]	def-PL	little[M]-PL	child(M)-PL
[l-e	savã-z	ãgle]	[l-e	p(ə)ti-z	ãfã]
def-PL	wise(M)-PL	English[M]	def-PL	little[M]-PL	child(M)
'Englishmen who are wise'			'the little children'		

b. Plural is marked only on D (no plural marking on the noun or the postnominal A)

<i>le-s</i>	<i>ami-s</i>	<i>anglais</i>	<i>enorme-s</i>
def-PL	friend(M)-PL	English[M.PL]	fat[M]-PL
[l-ez	ami	ãgle	enorm]
def-PL	friend(M)	English[M]	fat[M]
'the fat English friends'			

(3) Plural marking via *liaison* in lexicalized phrases

a. Plural is marked on D and on the prenominal A

<i>le-s</i>	<i>beau-x</i>	<i>art-s</i>	<i>le-s</i>	<i>petit-s-</i>	<i>enfant-s</i>
def-PL	beautiful.M-PL	art(M)-PL	def-PL	little[M]-PL	child(M)-PL
[l-e	bo-z	ar]	[l-e	p(ə)ti-z	ãfã]
def-PL	beautiful.M-PL	art[M]	def-PL	little[M]-PL	child(M)
'the fine arts'			'the grandchildren'		

b. Plural is marked only on D (no plural marking on the noun or the postnominal A)¹⁰

<i>le-s</i>	<i>eau-x</i>	<i>usé-e-s</i>	<i>le-s</i>	<i>maladie-s</i>	<i>infectieu-se-s</i>
def-PL	water(F)-PL	used-F-PL	def-PL	disease(F)-PL	infectious-F-PL
[l-ez	o	uze]	[l-e	maladi	ẽfeksjø-z] ¹¹
def-PL	water(F)	used[F]	def-PL	disease(F)	infectious-F
'the waste waters'			'the infectious diseases'		

This pattern shows that prenominal adjectives behave in principle differently from postnominal ones, there is a clear asymmetry can be observed. The pre- or postnominal position of the adjective plays a crucial role for the realization or non-realization of *liaison*-[z]. But we will see in the next section that in one and the same configuration, i.e. plural in NA-combinations, we can still find particularly high *liaison* realization rates with *some specific items* (cf. the example in (1d)). Going back to this example, we observe that the fully compositional phrase *les enfants adorables* ('the adorable children', (1c)) lacks overt plural marking except for the determiner, whereas *Nations Unies* ('United Nations', example (1d)) shows categorical *liaison*, blurring the observed asymmetry between plural AN- and NA-combinations. We thus agree partially with Sampson (2001: 252) in that "[h]istorically, *liaison* evidently began as a phonological process which operated across word boundaries within phrases and indeed even across phrase boundaries within sentential units. [...] However, from being a phonologically conditioned phenomenon, *liaison* has increasingly been reanalyzed (Morin and Kaye, 1982: 326)." The fact that *Nations Unies* shows obligatory *liaison* as opposed to most NA-combinations is to our mind the result of a reanalysis of the *liaison* consonant in this and similar NA-combinations. The *liaison* consonant [z] has been

314), but see the inconclusive results about this in Meinschäfer et al. (2015).

⁸ All examples have been checked with at least two native speakers of (diatopically unmarked) French.

⁹ This example is cited and discussed in Klein (⁶1982: 162), but it probably goes back to Sten (1956: 66).

¹⁰ It is clear that *eaux usées* 'waste water' is not an ordinary syntactic phrase (i.e. a free syntactic sequence), because it cannot appear in the following contexts: **ces eaux sont usées*, **l'usure de ces eux*, **de l'eau usée*, **des eaux très usées*, **des eaux usées et sales*, **des eaux*, **des eaux usées sont de l'eau*, **des eux d'usure* (Gross 1988: 69).

¹¹ Note that the [z] of [ẽfeksjøz] is not to be associated with the feature value plural; it is rather part of the feminine derivational suffix *-euse* [øz] (vs. masculin *-eux* [ø]).

reanalyzed in several respects as observed in the literature,¹² and we will focus here on its potential reanalysis in the postnominal domain, i.e. in NA-combinations.

3. *Liaison* in French AN/NA-combinations - Two corpus analyses

In what follows, we will present two empirical corpus studies on the realization of *liaison* in contemporary French in plural NA/AN-combinations, in order to have quantitative evidence for its actual distribution and to understand its function in those cases where [z] can be, at first glance, associated with a plural. Although several recent studies have been undertaken in order to describe *liaison* (also) in these contexts (cf. Post 2000, Durand and Lyche 2008, Ranson 2008, Meinschäfer et al. 2015, to name but a few), no study has made an effort to discuss in detail or to explain the fact that [z] *liaison* with postnominal adjectives is strikingly infrequent and is restricted to certain items. We will concentrate especially on this kind of examples (e.g. *Jeux Olympiques*).

3.1 Results from the *Phonologie du Français Contemporain* (PFC)

In order to figure out for our NA/AN-combinations, “[...] in which contexts [*liaison* is] always present (categorical *liaison*), in which contexts [it is] optional (variable *liaison*), and in which contexts [it is] totally or virtually absent (erratic or non-attested *liaison*)” (Durand/Lyche 2008: 40) and to learn more about its function, we conducted first a query in the corpus *Phonologie du Français Contemporain* (PFC, <http://www.projet-pfc.net/moteur.html>), focusing on the *liaison* element [z] in NA/AN-combinations, usually considered a plural morpheme (see above). The online version of the PFC corpus includes according to Durand et al. (2002, 2009) about 350 hours of spoken data from 396 speakers (born between 1910 and 1995) from about 36 different locations in France, Belgium, Switzerland, Quebec, Lebanon, Morocco and some other locations in Africa and the Antilles. Speakers were asked to read aloud a word list and a small text, participated in an interview (23 minutes, of which about 10 minutes were transcribed) and were recorded in one informal conversational situation (about 30 minutes, of which about 10 minutes were transcribed). These four different recording situations are considered to reflect different registers or *niveaux de langue*, with the informal conversation allowing for features of *français familier* (‘colloquial French’) and the text task eliciting features of *français soutenu*, a very elevated register. The corpus was designed by experts in French phonology to investigate *liaison* and Schwa realization in the first place (among other features) and it comprises a reading task on purpose, considered as absolutely legitimate data when it comes to studying French *liaison* (cf. Sampson 2001: 245-246, Eychenne et al. 2014: 40-41). The corpus was transcribed orthographically (the word list, the text and 10 minutes from the interviews and informal conversations) and analyzed with the software PRAAT and coded, among other things, for *liaison* (with the four subtypes ‘realized’, ‘non realized’, *liaison non enchaînée*, i.e. realization of the *liaison* consonant before a pause, and ‘epenthetic’ *liaison*, i.e. *liaison* where no underlying consonant can be assumed, as in *quatre officiers*, [katʁ(ə)(z)ɔfisje]).

At the time of our first study (October-December 2012), the corpus comprised a total of 53,561 potential *liaison* contexts, in which 25,534 items show a realized *liaison* consonant (e.g. [z], [t], [n]). We did not differentiate between the two types of *liaison* relevant in our context, i.e. ‘realized’ or ‘non-enchaînée’, as we were interested in the pure manifestation of *liaison* in NA-/AN-combinations. Out of the 25,524 items, 11,811 show the *liaison* consonant [z]; note, however, that [z] is not to be associated in all of these items with a plural (it may, for example, also be part of the verbal ending)¹³. We therefore not only restricted our search to the *liaison* consonant [z], but we also specified the left and right context of the *liaison*, in order to yield only relevant results for AN and NA. Furthermore, we also searched for the absence of possible *liaison* in the two contexts relevant for our analysis.¹⁴

¹² Another kind of “reanalysis” of liaison-[z] concerns different cases of non-etymological *liaison* (*liaison* errors, *fausses liaisons*, *pataquès*, *velours* or *cuirs*). This kind of *liaison* is a quite extensive phenomenon that is not linked with a specific French sub-variety, i.e. it is not simply a matter of performance (cf. Desrochers 1994: 244). There are different types and sub-types of “wrong *liaison*” and not all [z] are to be associated with a nominal plural (cf. Pichon 1935, Morin and Kaye 1982, Klausenberger 1984, Desrochers 1994): (i) lexicalisation (e.g. *zyeuter* ‘to gape at’; denominal verb, cf. sg. *œil* ‘eye’ vs. pl. *les yeux* [lezjø] ‘the eyes’) (ii) analogy (e.g. *trop* [z] *occupé* ‘too busy’ parallel to *très occupé* ‘very busy’), (iii) *liaison* at a distance (e.g. *soyez bien* [z] *à l’écoute* ‘listen carefully’) and (iv) plural marker in the prenominal domain. The most productive and regular cases of wrong *liaison* are those between a numeral (or a quantifier) and a noun (cf. Desrochers 1994: 252), cf. *quatre amis* [katzami] (‘four friends’)

¹³ As in *Nous sommes allés au cinéma*, [nusɔmzaleosinema], ‘We went to the movies’.

¹⁴ The search engine of the PFC does not allow one to restrict the case “absence of *liaison*” to a special latent consonant; we therefore filtered the items manually. Out of a total of 204 items showing “absence of *liaison*” in an AN-context, 52 are with plural [z]. In NA-contexts, we have a total of 1,210 items, out of which 1,070 comprise plural [z].

This resulted in a total of 1,857 items¹⁵ showing the combination NA/AN with potential *liaison* [z] out of which 166 (= 9%) items are with prenominal and 1,691 (= 91%) with postnominal adjectives (cf. Figure 1). In all the results obtained, [z] can be associated with a plural, i.e. we are apparently dealing with *liaison* of a consonant bearing grammatical information.

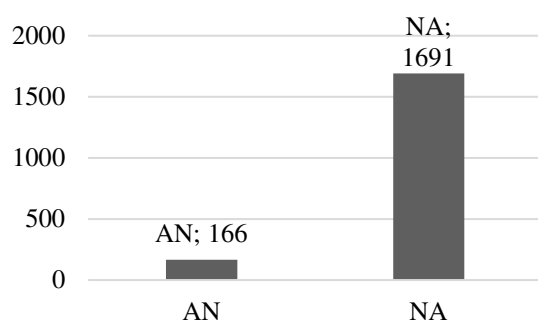


Figure 1. Results: Overview (PFC)

Out of the 166 items with prenominal adjectives, 135 items (81.3%) show *liaison* with [z] between adjective and noun, while 31 items (18.7%) are without realized *liaison* (cf. Figure 2). For NA-combinations, we obtained quite the opposite result: 1,070 items (63%) are without realized *liaison* between the noun and the following adjective, and only 621 (37%) show *liaison*. In other words, there is a clear tendency in NA combinations not to mark plural-[z] via *liaison* on the noun (or as a prefix on the following adjective, depending on which analysis one prefers).

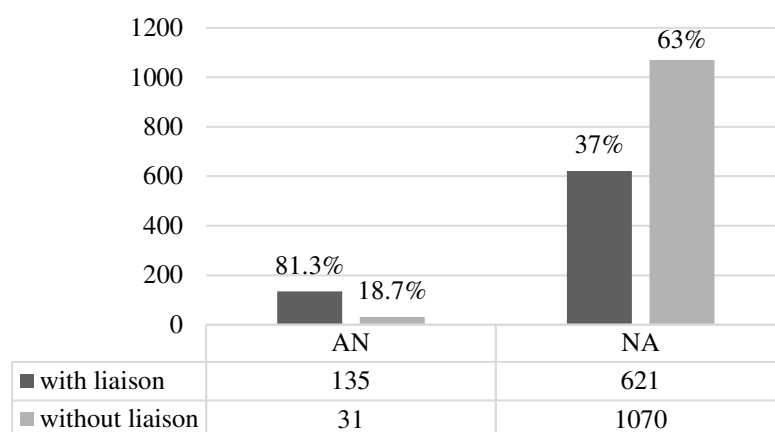


Figure 2. *Liaison* AN and NA

Regardless of where the speakers come from,¹⁶ the number of examples with realized *liaison* in AN combinations is always higher than the one without (cf. Figure 3). And, in contrast, the number of examples without realized *liaison* in NA combination is always higher than the one with (cf. Figure 4).

¹⁵ 21 items were not taken into consideration in our results. They all occur in the Swiss part of the PFC and concern the example *la Rue de Petites Haies*, where *haies* ‘hedges’ begins with a so-called *h-aspiré*, an impossible *liaison* context (cf. among others Klein 1982: 122).

¹⁶ In the following tables and diagrams, only attested occurrences of NA/AN-combinations in the plural are considered, which explains why not all regions represented in the *PFC* figure in our results.

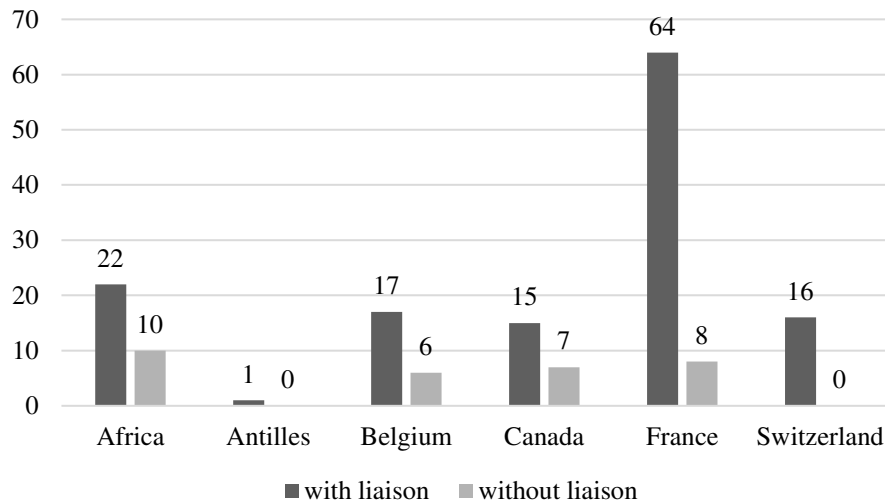


Figure 3. *Liaison* in AN-combinations

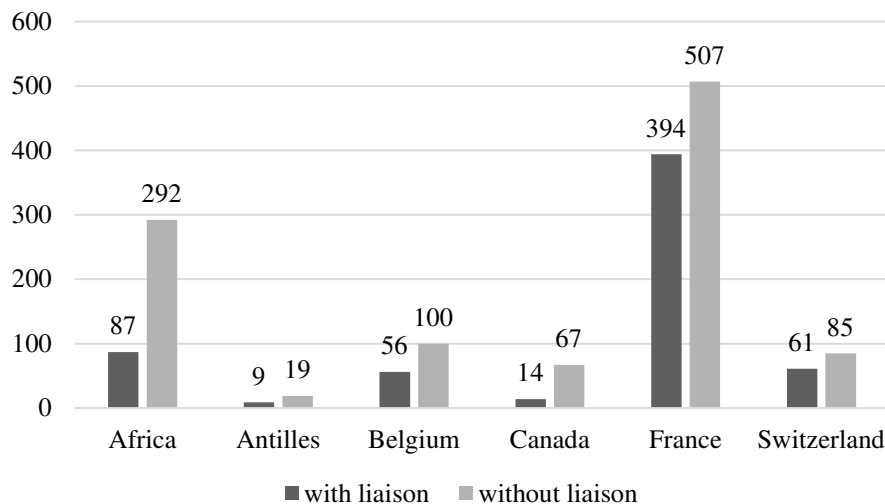


Figure 4. *Liaison* in NA-combinations

These results show that there is a clear preference for marking plural-[z] in the prenominal context whenever possible. For AN, the clear tendency to mark *liaison* is furthermore independent of the (elevated) register and recording situation: only 1 *liaison* of the AN-type occurs in the reading task (= elevated register), whereas 165 occur in informal conversations, i.e. the most natural communicative contexts. Realizing *liaison* in plural AN-combinations seems to be a productive morphosyntactic rule in French. In contrast, in NA combinations, [z]-*liaison* is avoided whenever possible. However, compared to the AN-combinations, the tendency in NA combinations is not that clear, as e.g. the results for France show in Figure 5.

As can be seen in Figure 5, which only concerns data from France, out of the 70 items with prenominal adjectives, 62 items (88.6%) show *liaison* with [z] between adjective and noun, while 8 items (11.4%) appear without realized *liaison*. This is so far in line with what Delattre (1947) had already observed. Let us consider now the NA-combinations: 531 items (57.7%) are without realized *liaison* between the noun and the following adjective, while only 390 (42.3%) show *liaison*. Even though there is a slight preference for not realizing *liaison* in NA-combinations, at first glance, the diagram appears to illustrate exactly what is meant by optional *liaison*.

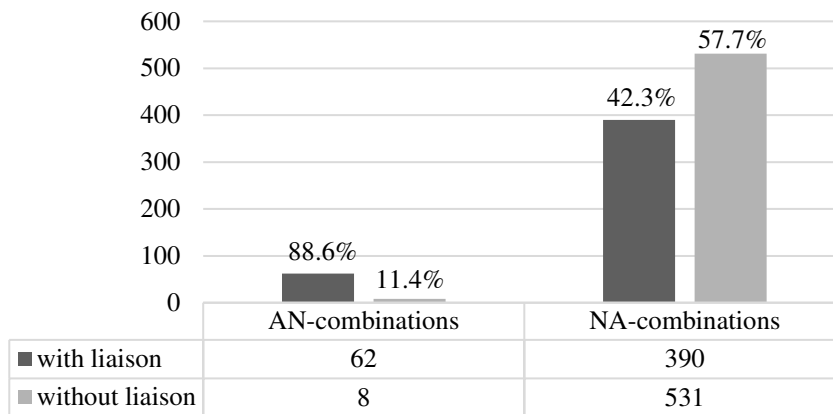


Figure 5. Absence vs. presence of *liaison* in AN/NA-combinations (only France) in the corpus PFC

It remains to be explained why the regularities for postnominal adjectives are so unclear, as opposed to prenominal ones. Is *liaison* between the noun and the adjective optional (as has been often claimed)? Do we have competition between two equally available constructions (cf. Bybee 2005)? In what follows, we hope to show that there may be another explanation for the attested variation, especially for NA-combinations. For this, we have to consider our results in greater detail.

The picture changes if we consider that the examples stem (at least partially) from different recording situations: (free or guided) conversation vs. reading task. As can be seen from Figure 6, in NA-combinations the possibility of realized *liaison* varies considerably with respect to the respective recording situations. In free and guided conversation, we have a clear preference (82%) for not realizing *liaison* between the noun and the adjective, while the presence of *liaison* increases considerably in the reading task.

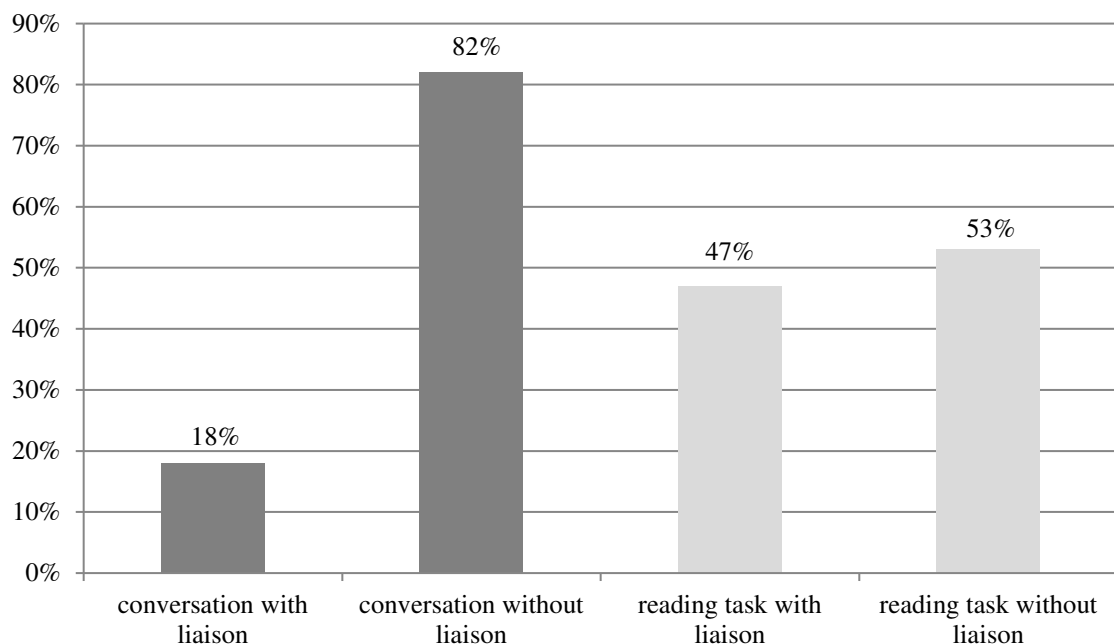


Figure 6. NA-combinations in the two types of recording situations: conversation (= “natural” situation) vs. reading task (= elevated register)

There are several reasons why the results for the reading task show a higher percentage of realized *liaison*. First, it is well-known that different recording situations are associated with different language registers and, in the case at issue here, a higher register triggers more *liaison*.¹⁷ Second, the results of the reading task may be subject to the

¹⁷ For Delattre (1947, 1955) and others, *liaison* (or at least *optional liaison*; cf. e.g. Klein ⁶1982: 171 who states “Diese *liaisons* gehören alle einer gehobeneren Stilschicht an und werden in der normalen Unterhaltung nicht oder selten gemacht” [These *liaisons* all belong to higher registers and are not or seldom realized in normal conversation]) is clearly tied to diastratic and diaphasic variation. Stylistic factors are even the most prominent factors for Delattre (1955: 44) (cf. also Malmberg 1969:142, von Proschwitz 1953: 12, Fouché 1959: 441-442,

phenomenon of *spelling pronunciation* (i.e. a pronunciation which is based on spelling / orthography and does not reflect the standard or traditional pronunciation). That is, in the reading task the speaker sees the plural -s and this may influence its pronunciation in a *liaison* context, whereas the potential influence of spelling may be less relevant in a situation of free or guided conversation.

If we leave the results of the reading task aside for the moment and consider exclusively the results recorded during the guided and free conversation, we observe the already mentioned prenominal-postnominal asymmetry, i.e. a clear preference for realizing *liaison* between a prenominal A and N and a strong dispreference for realizing *liaison* between N and a postnominal A (cf. Figure 7). Other corpus analyses have produced similar results (cf. Table 1). We can conclude thus with Durand et al. that with respect to N(pl)+A “[o]n remarque une forte différence entre la réalisation de la liaison et sa non-réalisation. Cette dernière apparaît comme le cas par défaut” (Durand et al. 2011: 123) ‘We remark a strong difference between realization of *liaison* and its non-realization. The latter appears to be the default case’.

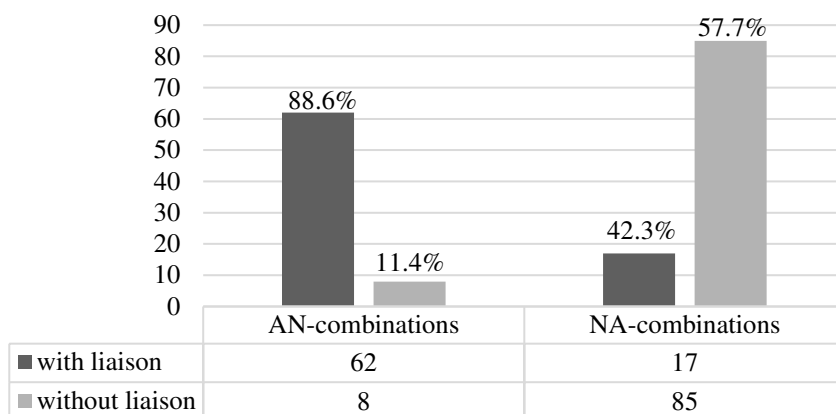


Figure 7. Results recorded during the guided and free conversation

Table 1. Realized *liaison* between N and A in different corpus analyses according to Ranson (2008:1673)

Ågren (1973)	Malécot (1975)	Ashby (1981)	Smith (1996)	Ranson (2008)
170/639	9/50	11/102	68/309	7/53
27%	18%	11%	22%	13%

In sum, many French nouns have lost the possibility to mark the plural via *liaison*-[z], which is in line with an early claim by Mok (1966: 36): “Les substantifs ont perdu leur forme de liaison dans le parler courant et ne présentent plus jamais par conséquent ce morphème” [Nouns have lost their *liaison* form in everyday speech and, consequently, they no longer bear that [plural, N.P.] morpheme]. As stated already in Section 2, the actual situation in French with respect to plural marking within the DP is such that we have a prenominal-postnominal asymmetry (cf. Figure 8): Plural marking via *liaison*-[z] is possible and strongly preferred in the prenominal domain and strongly dispreferred (even almost impossible) on the noun or, more generally, in the postnominal DP-domain (Pomino 2012, forthcoming).

Klein 1982:171) even though the social class of the speaker also plays a central role (cf. e.g. Booij and de Jong 1987). In very general terms, it is said that *liaison* is more frequent in formal registers than in colloquial ones and speakers of the “upper class” (cf. “la classe la plus cultivée”, Delattre 1955: 45) realize more *liaison* than less “cultivated/educated” speakers (cf. e.g. Delattre 1947, 1955, Fouché 1959, Ågren 1973: 125, Boij and de Jong 1987, de Jong 1994, Meinschäfer et al. 2015). Thus, *liaison* between a plural noun and a postnominal adjective (e.g. *des hommes illustres*) is generally omitted both “dans la conversation familière des gens cultivés” and “dans la conversation soignée” (i.e. [dezomilystr]), but it would be uncommon or rare to omit it “dans la conférence” (i.e. [dezomzilystr]) (Delattre 1955: 44-45).

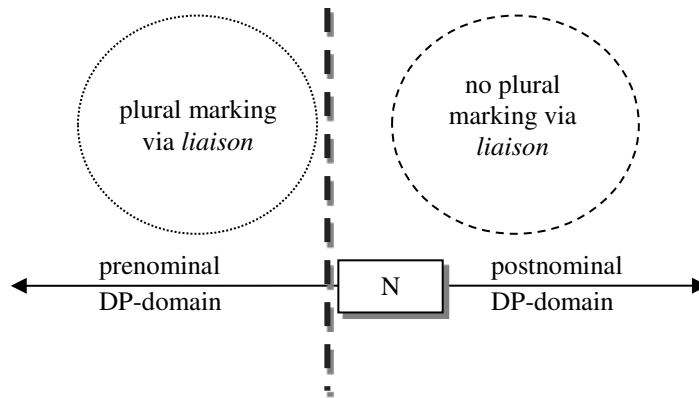


Figure 8. Prenominal/postnominal-asymmetry: Plural marking via [z] in phonic French (simplified illustration)

If there is no systematic plural marking in the postnominal domain, what does [z] mark then in those cases where it still appears postnominally (cf. the results for the reading task in Figure 6)? Is this kind of *liaison* really plural marking in any case? If so, why is it so unevenly distributed? Is it due to a higher register? Can it tell us anything about the internal structure or category of the NA/AN-combinations (see e.g. Olsen 2015: 381)? Or could it be that it has acquired a new function in contemporary French?

In order to formulate a possible hypothesis, we will focus in what follows mainly on the results from the reading task in France in the PFC corpus. About 9/10 of all our NA-items are constituted by the following four examples: *circuits habituels* (22%), *visites officielles* (22%), *Jeux Olympiques de Berlin* (22%) and *usine de pâtes italiennes* (22%). As Table 2 shows, 374 out of 792 tokens (i.e. almost 47%) in the reading task show realized NA-*liaison*, confirming the already mentioned existence of this *liaison* as a marker of high registers (cf. Morin and Kaye 1982: 293; Laks 2005: 106). And only 109 tokens stem from the interview and the informal conversation, and among them, only 20 show realized NA-*liaison* (i.e. only 18.35%). Thus, *liaison* in plural NA-combinations is anything but regular in natural, everyday French communication.¹⁸

Table 2. NA-*liaison* in two types of situations (reading vs. conversation, only France)

	with <i>liaison</i>	without <i>liaison</i>	Σ
Reading task	374	418	792
Conversation	20	89	109
Σ	394	507	901

(*circuits habituels*, *visites officielles*, *Jeux Olympiques*, *pâtes italiennes*)

However, what is evident in the PFC data, is the fact that the instances of *Jeux Olympiques de Berlin* stand out, because, as Figure 9 shows, it is the only item where we have a clear preference for *liaison* (cf. Durand et al. 2002: 103).¹⁹ Note that at the same time it is the only example where we deal with a proper name, a fact which has been neglected in previous studies. Thus, another crucial observation for our hypothesis is that whatever differentiates between *Jeux Olympiques*, on the one hand, and the other NA combinations of the reading task, on the other hand, it has surely nothing to do with diatopic variation nor with different registers, as *circuits habituels*, *visites officielles*, *pâtes italiennes* as well as *Jeux Olympiques* are all examples of the reading task (cf. Table 2).²⁰

¹⁸ We are fully aware of the fact that this small lexical variety of examples limits the possible generalizations that we could draw from our data. We have tried nevertheless to identify possible explanations for the variation observable in the PFC corpus and suggest in the conclusion further psycholinguistic experiments to broaden the picture and to corroborate (or refute) our hypotheses.

¹⁹ See also the following quote from Durand et al. (2002: 103): “Pour ce qui est de *jeux olympiques*, la lexicalisation avec *liaison* est généralisée chez les locuteurs de Grenoble et de Caen, mais pas chez les Canadiens interviewés.” [Concerning *jeux olympiques*, speakers from Grenoble and Caen generally lexicalize the form with *liaison*, but the Canadian speakers interviewed do not.]

²⁰ An anonymous reviewer pointed out that the avoidance of a hiatus may influence the appearance of [z] in *Jeux Olympiques*. For reasons of space we cannot discuss this point in length, but we have tested it also in the *Sapperlot* corpus study. If it were true that nouns ending in vowel always trigger a higher *liaison* rate, we would expect also a higher occurrence of *liaison* in the case of *idées autonomistes*, *eaux usées* etc. (cf. table 3), but we do not.

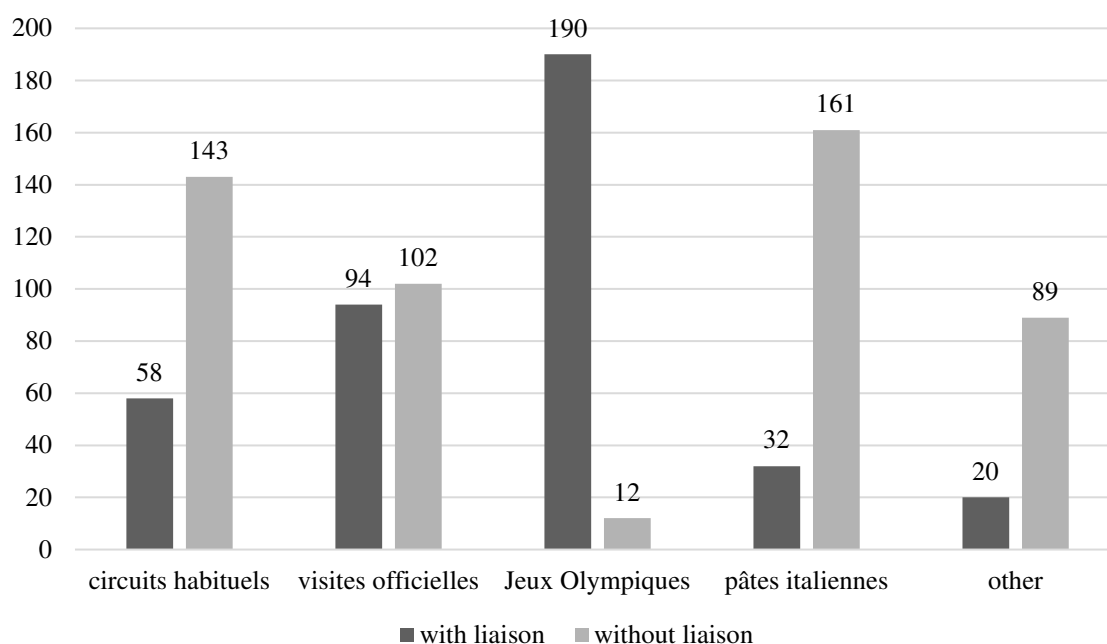


Figure 9. NA-combinations (reading task, only France)

It is a fact that “strongly lexicalized” French NA-combinations seem to have maintained the *liaison* [z] in NA-combinations (cf. Ågren 1973: 124²¹, Klein 1982: 171-172, Bybee 2005: 27, Meinschäfer et al. 2015: 384). However, we argue in what follows that the kind of *liaison* in *Jeux Olympiques* should be treated apart from the one found in *circuits habituels*, *visites officielles* and *pâtes italiennes*.

3.2 Results from the *Sapperlot* corpus

In a second step, we tried to determine whether this quantitative evidence for the special status of *Jeux Olympiques* in the PFC can be found in other data of contemporary French as well and whether we can find more instances of items with almost categorical NA-*liaison*. For this reason, we participated in the project *Stimmen der Schweiz* ‘Voices of Switzerland’ (cf. <http://www.stimmen.uzh.ch/>). It is a linguistic project of the *Phonogrammarchiv* of the University of Zürich in four languages conducted in collaboration with the *Deutsches Seminar* and the *Romanisches Seminar*. The main aim of the project is to investigate the linguistic landscape of Switzerland. The linguistic data were elicited through language-specific online recordings (mainly reading tasks) and collected in the *Sapperlot* corpus.

For the French part of the corpus analysed here, participants recorded their reading aloud of 10 written examples, which contained a total of 37 possible contexts for *liaison*: 8 between two adjectives (AA, around 22%), 2 between a prenominal adjective and a noun (AN, around 5%), 9 between a determiner and a noun (DN, around 24%) and 18 between a noun and a postnominal adjective (NA, around 49%). We included *liaison* contexts between the determiner and the noun as a control context, as this is considered to be a case of obligatory *liaison* in the literature (cf. e.g. Ågren 1973: 5). We also included AA (postnominal adjectives), as this is considered to be a context of almost impossible *liaison* (see above, examples (2b)). As these data are data from a reading task, they are fully comparable to the reading data from the PFC. And, even though the *Sapperlot* corpus covers mainly a single French speaking region, i.e. Switzerland, we consider it legitimate to compare the overall findings of the two corpora, because the overall tendencies are clear and strikingly similar (see Table 3 below).

At the time we consulted the corpus (summer 2013), about 114 persons had been recorded. After having discarded obvious non-native speakers, incomprehensible recordings and recordings with heavy reading errors, we obtained between 66 and 87 reliable recordings per example. In detail, we have 635 for AA, 165 for AN, 651 for DN, and 1401 for NA, the context we are most interested in (total = 2852). Figure 10 gives the overall picture:

²¹ “Afin de m’en tenir uniquement aux liaisons facultatives [in the contexts N + A or N + past participle, NP/ES], j’ai aussi dû écarter les locutions toutes faites qui font une liaison communément considérée comme obligatoire. Une liste de ces cas comprend les expressions suivantes : [...] *Champs Elysées*, *Nations Unies*, [...] *Jeux Olympiques* [...] (Ågren 1973: 124). [In order to consider exclusively optional *liaisons*, I also had to remove collocations/idiomatic phrases which, as a general rule, show an obligatory *liaison*. A list of these cases includes the following expressions: [...] *Champs Elysées*, *Nations Unies*, [...] *Jeux Olympiques* [...].]

in 96% (611 vs. 24) of all reliable recordings, *liaison* between two adjectives is avoided, whereas it is realized in 95% (156 vs. 9) of all reliable recordings for AN. *Liaison* between D and N is realized categorically (100%). When it comes to *liaison* in NA-combinations, the picture is less clear: it is realized in about 30% (424) of the reliable recordings, and not realized in about 70% (977).

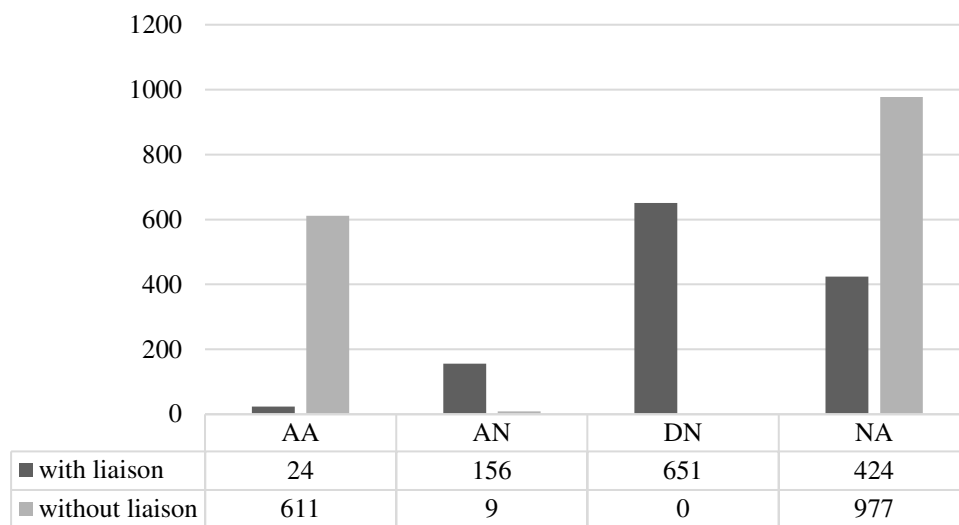


Figure 10. Overall results (*Sapperlot* corpus)

A closer look at the single examples of NA-combinations shows an overall preference for not realizing *liaison* in 14 cases (in between 100% and 68% of the recordings), except for the last two examples in Table 3, where it is realized in almost every recording (roughly, in 96.5% and 99% of the reliable recordings). Figure 10 and Table 3 lie in between these two poles and show no clear-cut preference for *liaison* or not.

Table 3. Detailed results for NA-combinations

	Example	N ends in	With <i>liaison</i>		Without <i>liaison</i>		Σ
1	<i>idées autonomistes</i>	V	0	0%	85	100%	85
2	<i>eaux usées</i>	V	7	9%	70	91%	77
3	<i>frontières occidentales</i>	C	8	10%	72	90%	80
4	<i>eaux usées</i>	V	8	10.4%	69	89.6%	77
5	<i>partisans irakiens</i>	V	9	10.6%	76	89.4%	85
6	<i>actes accomplis</i>	CC	8	12.1%	58	87.9%	66
7	<i>eaux amères</i>	V	11	13.7%	69	86.3%	80
8	<i>enfants adorables</i>	V	16	18.4%	71	81.6%	87
9	<i>travaux extraordinaires</i>	V	16	19%	68	81%	84
10	<i>corps humains</i>	C	16	24.24%	50	75.76%	66
11	<i>maladies infantiles</i>	V	22	26.83%	60	73.17%	82
12	<i>corps expéditionnaires</i>	C	22	30.14%	51	69.86%	73
13	<i>systèmes immunitaires</i>	C	25	30.49%	57	69.51%	82
14	<i>corps entiers</i>	C	21	31.82%	45	68.18%	66
15	<i>forces alliées</i>	CC	38	47.50%	42	52.50%	80
16	<i>actes humains</i>	CC	36	54.55%	30	45.45%	66
17	<i>Nations Unies</i>	V	82	96.47%	3	3.53%	85
18	<i>États-Unis</i>	V	79	98.75%	1	1.25%	80

According to Delattre (1955: 46-47), Côté (2011: 5) and others, *liaison* is generally more frequent after a vowel than after a consonant, and it is more frequent after one consonant than after two. Thus, for Figure 10 and Table 3 (and also for Figure 3), the phonetic context immediately preceding the *liaison* consonant might be responsible for

not triggering a clear preference.²² Note that, in contrast to the other examples, *forces* as well as *actes* ends phonetically in two consonants when pronounced in isolation, [fɔʁs] and [akt]. In the event of *liaison*, we would have thus an unfavorable cluster of three consonants. There is however the possibility of pronouncing a schwa, especially in *liaison* contexts such as in *forces alliées* [fɔʁs(əz)alie] and *actes humains* [akt(əz)ymɛ̃]. As the brackets in the transcription show, the presence of *liaison*-[z] implies the presence of an epenthetic schwa, at least in our data. For example, with one single exception, all speakers who make the *liaison* between *forces* and *allies* also realize a schwa, i.e. they say [fɔʁsəzalie]. Something similar holds for *actes humains* and *actes accomplis*.²³

Another factor that may impinge on *liaison* in the case of *forces alliées* is its unclear status with regard to proper namehood. In our example, *forces alliées* denotes any kind of allied forces, i.e. it was meant to have a compositional reading. However, as it appears in phrase initial position where the context is not yet clear, it could also be associated with the specific Allied Forces liberating Europe from Nazi Germany in the Second World War. In this case, we would have a proper name reading rather than a compositional one (see Section 4).

Much more interesting for our hypothesis is the reversed pattern between examples (1) to (14) and (17) and (18) in Table 3: as for *Jeux Olympiques* in the French PFC data, NA-combinations such as *Nations Unies* ‘United Nations’ and *États-Unis* ‘United States (of America)’ seem to be regularly pronounced with *liaison* (again, this patterns with Ågren’s observations for *Nations Unies*, cf. Ågren 1973: 124).²⁴

3.3 Interpretation of our results

Thus, both the PFC data and the *Sapperlot*-data show a very strong preference for *liaison* in plural AN-combinations, whereas *liaison* is not systematically realized in plural NA-combinations with a tendency towards non-realization. These findings are in strict correspondence to other recent corpus work on *liaison* by Ranson (2008: 1673-1674) on a spoken corpus from Southern France, Mallet (2009) on the PFC (see especially the tables on pages 319-321) and Meinschäfer et al. (2015: 379, 382, 384) from the C-ORAL-ROM, who found consistent realization of the *liaison* consonant [z] in prenominal adjectives, but only one realization of the *liaison* consonant of the plural noun with a following adjective (*soins intensifs* ‘intensive care [unit]’), produced by only one speaker who shows an overall higher *liaison* realization rate than the other speakers of their corpus.

The corpus analyses in Sections 3.1 and 3.2 have shown that the general asymmetry in *liaison*-realization of [z] for AN vs. NA combinations in French holds, once the instances of *Jeux Olympiques*, *Nations Unies* and *Etats-Unis* are not considered in the quantitative analysis. For the PFC corpus, it has shown the scarce occurrences of NA-*liaisons*, the majority of which are found in the reading task, being restricted to a specially marked high register (cf. Table 2). In the *Sapperlot* corpus, where all the data stem from reading tasks, we find preferred *liaison* in NA-combinations only with *Nations Unies* and *Etats-Unis* and with two NA-combinations (*forces alliées* and *actes humains*) with a specific phonetic structure. This (and the arguments put forward below) is enough evidence for us to say that the *liaison* consonant [z] in our data in NA-combinations cannot be considered a plural exponent, as its presence is not systematically triggered by the plural morpheme, quite to the contrary (it is more frequently absent than present), but, as we will argue below, by ‘proper namehood’ (and additionally, some specific phonetic constraints, cf. Ågren 1973: 127-129).

In other words, we argue, based on observations made already by Ågren (1973), Durand et al. (2002: 103) and others, that the *liaison* in *Jeux Olympiques* is to be treated apart, because it is far from being a case of “optional *liaison*”. As the results show, this kind of *liaison* – if we can still talk of *liaison* in a proper sense – is rather obligatory. The difference between *Jeux Olympiques* and the other three examples in Figure 9 is that we are dealing here with a proper name that has been lexicalized with the *liaison* consonant as [ʒɔzɔlɛ̃pik] (at least in France). Thus, this kind of “*liaison*” is a kind of “frozen morphology”. That is, the morpheme (here plural-[z]) on the noun has been “lexicalized” together with the adjective in this construction, and it has lost its former function in the sense that the [z] of *jeux* has become part of a “new” lexeme and is no longer the exponent of [plural].²⁵ In Section

²² As Ågren (1973: 127-129) states for his data (recordings of different radio broadcasts), 41.5% of his analyzed cases induce *liaison* in this context, which comes close to our findings.

²³ The difference between *actes humains* and *actes accomplis* with respect to the presence or absence of *liaison* goes back most probably to the position of the items in the corresponding example. *Actes humains* is found at the very beginning of the sentence, whereas *actes accomplis* appears only later and after several other instances of *actes* (without *liaison*), cf.: *Les actes humains* [45.45% without *liaison*] *sont des actes qui procèdent de la connaissance et de la volonté libre. Il faut distinguer les actes de l'homme, c'est-à-dire les actes accomplis* [87.9% without *liaison*] *par un homme mais qui ne procèdent pas de la connaissance et de la volonté libre.*

²⁴ One anonymous reviewer pointed out to us that collocational strength may influence the preference of *liaison* in these cases. This needs to be checked in a large scale corpus analysis which we could not yet carry out. We leave this issue for further research.

²⁵ We have here a situation comparable to that of French (or Romance) adverbs in *-ment* as e.g. *doucement* ‘softly’,

4 below, we will explain in greater detail our idea that *liaison* in *Jeux Olympiques* (and similar examples such as *Champs Élysées*) has to be interpreted as a kind of proper name marker.

If we assume that the [z] in [ʒɔzɔlɛ̃pik] is no longer the plural exponent, this does not necessarily mean that *Jeux Olympiques* has been reanalyzed as morphologically singular. It is still possible for the whole expression to appear in a plural DP, even though we can observe a curious behavior of *Jeux Olympiques* with respect to number. As the examples in (4) below show, *Jeux Olympiques* triggers (as a general rule) plural agreement on the verb and on other DP-external elements.

(4) Plural agreement on the verb

- a. *Les Jeux Olympiques sont des compétitions athlétiques.*
 def.pl game(m).pl olympique.pl are.3pl det.part competition(f).pl athletic.pl
 ‘The Olympic Games are athletic competitions.’
- b. *Après 108 ans, les Jeux Olympiques modernes retournent aux sources.*
 after 108 years, det.pl game(m).pl olympique.m.pl modern.pl return.3pl
 to.det.pl source(f).pl
 ‘After 108 years, the modern Olympic Games returned to their original birthplace’

However, *Jeux Olympiques* can be combined with the indefinite quantifier or distributive determiner *chaque* ‘each’ which due to its distributional meaning is usually incompatible with a plural noun, cf. e.g. *Chaque étudiant/*étudiants a/*ont lu un livre* ‘Each student/*students has/*have read a book’. This shows that *Jeux Olympiques*, even though the plural is perceptible in the form, is conceived as one single entity on the semantic level in (5a) and (5b). In this use *Jeux Olympiques* or rather the DP where it is contained may also trigger singular agreement on the verb and the predicative adjective, cf. (5c).

(5) Combination of *Jeux Olympiques* with the distributive determiner *chaque* ‘each’²⁶

- a. *A chaque jeux olympiques, la santé des athlètes représente un véritable cheval de bataille.*²⁷
 ‘In each Olympic Games, the health of the athletes is a real hobbyhorse / favorite topic’
- b. *Depuis, le relais et l’allumage de la flamme ont eu lieu à chaque Jeux olympiques.*²⁸
 ‘Afterwards, the relay and the lighting of the flame took place in each Olympic Games.’
- c. *Chaque Jeux olympiques est unique.*²⁹
 ‘Each Olympic Games is unique’

Interestingly there are also examples where we find a mixture of what has been said: In (6) the NA-combination combines with *chaque*, i.e. *Jeux Olympiques* behaves syntactically rather like a singular noun, whereas in the postnominal or DP-external domain we have plural agreement. More precisely, there is a pluri-possessive pronoun *leurs* in (6a), and in (6b) the copula and the DP-external adjective appear in their plural form.

(6) “Mixed agreement” with *Jeux Olympiques*

- a. *A chaque Jeux olympiques leurs mascottes.*³⁰

durement ‘heavy, hard’. Traditionally, it is assumed that these adverbs originated from a Latin construction in which the adjective agreed in gender with the feminine noun *mens / mentis* ‘mind, mood’. In the modern French examples, the feminine marker of the adjective is a vestige of internal inflection. Without entering into a diachronic discussion, it seems plausible to assume that the old agreement marker on the adjective is a piece of “frozen morphology” without any linguistic value in modern French adverbs. That is, “the feminine marker of the base adjective does not realize any feature of the morphosyntactic representation dominating the adverb nor participate in any other way in the syntax of the sentence which it is part of” (Rainer 1996: 87, for Spanish and Portuguese adverbs).

²⁶ Note that there are even attested examples where *chaque* is combined with singular *jeu olympique*, completely synonymous to the plural *Jeux Olympiques*, a hint at transnumerality: cf. e.g. *Cinq pays — Australie, France, Grande-Bretagne, Grèce et Suisse — ont envoyé des équipes à chaque jeu olympique* ‘Five countries – Australia, France, Great Britain, Greece and Switzerland – have send a team to each Olympic Game’ (Found in: http://fr.wikipedia.org/wiki/Jeux_olympiques_d%27%C3%A9t%C3%A9; 05.03.2014).

²⁷ Found in: http://www.chronofoot.com/sotchi-2014/sotchi-2014-100-000-preservatifs-prevus-pour-les-athletes-des-jeux-olympiques_art43092.html (05.03.2014).

²⁸ Found in: http://fr.wikipedia.org/wiki/Flamme_olympique (05.03.2014).

²⁹ This example stems most probably from a francophone speaker of Canada (found in: <http://cbcrblog.com/olympiques/john-einarson/>). According to Durand et al. (2002: 103) *liaison* in *Jeux Olympiques* is not generally lexicalized for speakers of Canada.

³⁰ Cf.: <http://www.20minutes.fr/sport/diaporama-4366-photo-762390-sotchi-2014-ceremonie-ouverture>

- to each game(f).pl olympique.pl poss.3pl.pl mascot(f).pl
 'Each Olympic Games (has) its mascots'
 b. *C' est dur à dire, chaque jeux Olympiques sont différents.*³¹
 it is hard to say each game(f).pl olympique.pl be.3pl different.pl
 'It's hard to say, each Olympic Games are different.'

Let us return now to the *liaison* facts. As mentioned above, we assume that [z] in *Jeux Olympiques* is no longer a real *liaison* consonant in a pattern of optional *liaison*. Rather, it has become an obligatory ordinary consonant which has lost its plural function. This observation is not only true for *Jeux Olympiques*, but also for other NA-combination, cf. (7).

- (7) Expressions with lexicalized *liaison*-[z] (cf. Klein ⁶1982: 171-172, Ågren 1973: 124, Mok 1966: 36 fn. 13)
- Proper names:
Champs-Élysées, *États-Unis d'Amérique* 'the United Nations of America', *Nations-Unies* 'the United Nations', *Pyrénées Orientales* 'East Pyrenees Mountains'
 - Compounds / idioms / idiomatic or frozen expressions:
affaires étrangères 'foreign affairs', *service de soins intensifs* 'intensive care unit', *à bras ouverts* 'with open arms' etc.

Interestingly, we find this “*liaison*” or rather fixed realization of a former *liaison* consonant also in singular NA-combinations. This fact is of special interest for our argument, because singular NA-combinations are usually classified as not allowing *liaison* or as a context of “forbidden *liaison*” or “erroneous *liaison*” in Modern French (cf. Encrevé 1988: 47, quoting Delattre 1966: 43). Thus, the examples in (8) show that the former “*liaison* consonant” has most probably acquired a new function, as it is accepted and even categorical in a context nowadays considered to be impossible for *liaison*. Note that we have here proper names or proper-name like expressions.

- (8) *Liaison* with proper names, idiomatic expressions and “lexicalized” elements in contexts of otherwise “forbidden *liaison*” (cf. Klein ⁶1982: 173, Côté 2011: 4)
- *Mont Aigu* [mɔ̃tɛgy] (not *[mɔ̃tɛgy]) (a mountain near Fontainebleau, to the south of Paris) ³²
 - *accent aigu* [aksɛ̃tɛgy] (not *[aksɛ̃tɛgy])

Strikingly, in his analysis of *liaison*-realization in the speech of politicians, Encrevé (1988) notes one example of “*liaison erratique*” ‘erroneous liaison’ in a singular NA-construction, attested though several times in the speeches and public debates of François Mitterrand: *Crédit Agricole* [kreditagrikɔl] (Encrevé 1988: 58-61), the name of an important French bank institute.

All this looks like a reanalysis of NA-*liaison* that leads to a productive pattern of proper name marking. In this context, the following metalinguistic comment from a native speaker about the example *les maladies anglaises* ‘the English diseases’ (depressions, suicidal tendencies) is especially interesting, since she states that she would realize *liaison* only if *maladies anglaises* could be used as a proper name:

[...] je ferais la liaison s’il était avéré que certaines maladies, évoquées habituellement par périphrase, sont attribuées à tort ou à raison à l’Angleterre (maladies sexuellement transmissibles) ; ou encore, dans un sens ironique, pour évoquer les ‘maladies anglaises’ comme un comportement particulier (par ex. ne pas aller au travail).³³

Additionally, a short experiment which we ran with three native speakers on *Jeux Asiatiques*³⁴ (once presented as a name for a special sports event like *Jeux Olympiques*, once as a compositional DP for ‘Asian games’) showed a similar result: two native speakers would prefer *liaison* in the first and would not make it in the second case, the third avoiding *liaison* in all cases for that construction.³⁵

(05.03.2014).

³¹ Cf.: <http://www.rtl.fr/actualites/sport/jeux-olympiques/article/jo-michael-phelps-le-plus-grand-nageur-de-tous-les-temps-7751429103> (05.03.2014).

³² We would like to thank Christoph Schwarze, Konstanz, for pointing out this example to us.

³³ ‘I would make the *liaison* if it was the case that certain diseases, usually denoted by a periphrasis, are attributed, rightly or wrongly, to England (sexually transmitted diseases), or to evoke, in an ironic way, the ‘English diseases’ as a particular way of behaving (e.g. not going to work).’

³⁴ We would like to thank an anonymous reviewer for pointing this out to us.

³⁵ The examples were:

i. *La France a gagné cinq médailles aux derniers jeux asiatiques* (‘France won five medals at the last Asian games’).

In view of these results, we would raise some questions as to Bybee (2005), who assumes two different lexically open constructions for French NA-combinations in the plural, one less frequent (“[NOM + z + ADJECTIF]pluriel”) and one more common (“[NOM + ADJECTIF]pluriel”). We do not see any good arguments for assuming the existence of the first one as lexically open, since it occurs in our data, as Bybee (2005: 27) assumes herself, quoting Ågren (1973), only in some specific expressions, i.e. it is not a construction which can be filled freely with any material. Bybee’s explanation for the seeming variation in *liaison*-realization with postnominal adjectives in plural NA-combinations is based simply on frequency (as the vocalic onset of postnominal adjectives, necessary for a possible *liaison*, is present only in a minority of adjectives, the construction without *liaison* is naturally more frequent, and speakers tend to generalize the more frequent construction). Apart from the fact that this is not a (satisfying) explanation, but a mere restatement of the facts, it does not take into account the observed AN-NA-asymmetry (a similar frequency bias will occur for AN with vocalic onsets in Ns being less frequent than consonantal ones, but *liaison* is almost categorical here) and it does not even mention the stylistically marked character of the construction with *liaison* when occurring outside the specific expressions which lexicalized as names with the *liaison* consonant.³⁶

In the next section, we will propose a new value of the liaison-[z] in some NA-combinations of our corpus, as analogous to a ‘proper name marker’, a proposal supported by cross-linguistic evidence.

4. Discussion: Stylistically unmarked *liaison* in NA-combinations as ‘proper name marking’

The discussion about useful formal criteria for proper names and how to distinguish them from common nouns is vast. For what follows, we would like to introduce the very useful distinction made by Vandelanotte and Willemse (2002) (based on Van Langendonck 1995 and 1999 and taken up, e.g., by von Heusinger 2010) between *proprial lemmata* on the one hand and *proper names* as a specific syntactic category, on the other. The former comprise lexical elements such as *Napoleon*, *Kafka* or *Maria* (for their specific, though still predicate-like semantics, see Matushansky 2008); the latter is a syntactic category with the formal features of close apposition of its components, the absence of otherwise obligatory determiners in many languages in argument position, some specific movement features (cf. e.g. Longobardi 1994 for Romance) and transnumerality. An example to illustrate a proper name category in syntax may be the use of the lexeme *apple* in English as a proper name for girls: in a sentence like *I saw Apple Paltrow yesterday*, *apple* can be used without a determiner in object position, cannot have a plural and stands in close apposition to the surname *Paltrow*.

This distinction makes it possible to resolve many otherwise unnecessarily complicated descriptive problems, e.g. that of the ‘transformation’ of seemingly proper names into common nouns and vice versa. Assuming that *Napoleon* is a *proprial lemma* which can be used either in the syntactic category proper name (cf. (9a)) or as an ‘unmarked N’ (= common noun) (cf. (9b)) avoids a whole interpretative machinery – in the context of a quantifier, the lexical item *Napoleon* is a common N and thus not functioning as a rigid designator (cf. Kripke 1972), but denotes a class of people with *Napoleon*-like properties, just as *dogs* denotes a class of animals with *dog*-like properties.

- (9) a. *Napoleon is an important figure in history.* [proper name]
 b. *I have met many little Napoleons in my life.* [common noun]

In what respect is this relevant for our corpus results? Many researchers agree about the *absence or gradual loss of internal and external (case) inflection* (cf. e.g. Leroy 2004, Nübling 2005, Fuss 2011) for *proprial lemmata*. Furthermore, proper names seem to have a *special morphosyntax* or generally a special formal structure in many languages (cf. the quote in (10)). On the semantic side, most researchers agree that proper names have a special semantics, by having a “naming convention” in their meaning, which conventionally links the description in the name to an extra-linguistic entity (cf. Matushansky 2008), or by being mono-referential signs, i.e. signs which do not denote a class of referents, but only one specific referent in a given context (cf. Nübling 1998, 2005; Vandelanotte and Willemse 2002: 11ff; von Heusinger 2010; Fuss 2011).

- (10) Binnenmorphologische Modifikationen, die bei APP [= common nouns, NP/ES] üblich sind, sind bei EN [= proper names, NP/ES] seltener anzutreffen [...]. Dieses Prinzip korreliert - falls die EN-Flexion von der der APP abweicht - mit generell weniger flexivischem Material [...] bzw. auch mit geringerer [...] Flexivallomorphie [...] (Nübling 2005: 50).

ii. *Je n'aime pas le mikado et les autres jeux asiatiques* ('I don't like Mikado and other Asian games').

³⁶ See Bybee (2005: 28): “Toutefois, le schéma plus spécifique avec le [z] devant les adjectifs à initiale vocalique reste disponible et il est parfois utilisé.” [However, the more specific schema with [z] in front of adjectives with vocalic onset remains available and is sometimes used.]

‘Inner-morphological modifications which are usual for common nouns are seldom encountered with proper names [...]. This principle correlates – if there is a difference between the inflection of common nouns and proper nouns – with generally less inflectional material [...] or rather with less inflectional allomorphy.

Thus, an oft-noted formal difference between common nouns and lexical material used as proper names, maybe becoming completely lexicalized proprial lemmata, is a stronger loss of inflectional marking than e.g. in compounds, especially for Germanic languages (see also Mayerthaler 1981: 152 claiming an iconic marking strategy here in that formal ‘uninflectionability’ mirrors semantic opacity). Additionally, Fuss (2011) showed convincingly that names in German have a special inflectional behaviour and are subject to specific morphological changes that lead, among other things, to a considerable loss of morphological case marking on them. Fuss made two claims which might be of interest for our findings (cf. (11)): First, German roots in proper names form a particular inflectional class with regular agglutinative plural marking, blocking the still partially productive metaphonic plural marking (cf. (11a) and Nübling 2005: 35-36; Fuss 2011: 23). Second, Fuss claims a quicker and more radical loss of case morphology for roots used as proper names than for common nouns since Old High German, which results in ‘mono inflection’ (cf. (11b) and Fuss 2011: 24-28).

- (11) Two central characteristics of proper names according to Fuss (2011)

- a. German proper names:

common noun	proper name
<i>die Köche</i> ‘the cooks’	<i>die Kochs</i> ‘the Koch family’
<i>die Fischer</i> ‘the fishers’	<i>die Fischers</i> ‘the Fischer family’

- b. Genitive marking only once in the German DP containing a proper name:

der Geburtstag des kleinen Kind-es ‘the little child’s birthday’

**der Geburtstag des kleinen Peter-s* ‘Peter’s birthday’

Research on *complex* proper names in Romance is almost non-existent, at least for French (with the exception of Bosredon 2011: 156).³⁷ Bosredon (2011) states an overall morphosyntactic similarity to common nouns, also with compounds and other syntagma and asserts that the semantics of common nouns used as proper names are changed by conventionalization from a purely descriptive argument to a rigid designator, without there being any change in form. Concerning family names, French has, however, a comparable reduction of inflection, in that family names do not take the graphic plural marker <s> (*les Sarkozy* ‘the Sarkozy family’, not **les Sarkozys*), and, much more relevant to the present study, may also take different plural forms in the phonic code, cf. *Les maréchaux* [mareʃo] *sont rares de nos jours* ‘Marshals have become rare nowadays’) vs. *Les Maréchal* [mareʃal] *viennent à dîner* ‘The Marshal family is coming to dinner’).³⁸

Nübling has repeatedly shown (e.g. 1998, 2005) that languages seek to distinguish formally proper names (or maybe proprial lemmata, unfortunately, she does not make this distinction) from common nouns, as these two types of nominal expressions function in a different way in argument position and also on the semantic-pragmatic side. They are, however, at least at their origin, formally produced according to common grammatical regularities of the respective language, i.e. they start as regular syntactic phrases with a compositional reading (e.g. Germ. *Land-Friede*, ‘peace of the country’, probably ‘the one who brings peace to the country’, to monomorphemic *Lem-pfert*, with metaphony and resyllabification). Not every language marks proprial lemmata and proper names consistently, but many languages have the tendency to highlight ‘proper-namehood’ also formally (cf. Nübling 2005; this is often specific for specific groups of names, e.g. toponyms, patronyms etc., cf. Nübling 2005: 28). Besides prosodic, graphic, phonetic and phonotactic, derivational and syntactic-contextual marking strategies (cf. Nübling 2005 for an overview; Matushansky 2008: 605-606 for English), which we cannot enumerate and illustrate here for reasons of space, many morphophonological strategies result in a loss of morphological motivation and integrity of the original elements forming a complex proper name.

Yet, as we have seen in our corpus analysis, this statement, taken to refer to proper names, is not at first sight compatible with our findings, because highly lexicalized and even proper name-like French NA-combinations seem to show *more* internal (plural) inflectional marking than other NA-combinations. Even if the *liaison* consonant in these NA-combinations originates from a plural marking (and all the NA-combinations trigger plural agreement, i.e. are *morphologically* plural), *semantically*, the *liaison* consonant cannot be a plural (inflectional) marker any more in most of its corpus occurrences. More precisely, the “plural” in *Nations Unies*, *Etats-Unis* or *Jeux Olympiques* is not a semantic plural that is interpretable at the semantic interface of grammar, especially as

³⁷ Bosredon (2011: 156) calls complex and/or compound proper names “dénominations polylexicales monoréférentielles” and states: “[...] mais il n’y a pas d’études consacrées entièrement à des noms propres composés comme *Grande-Bretagne* par exemple.” [...] but there aren’t any studies dedicated entirely to compound proper names such as Great Britain.]

³⁸ We are grateful to an anonymous reviewer for having pointed out this example to us.

there is no parallel singular NA-combination to these expressions (*une nation unie*, ‘a united nation’, is not necessarily part of the United Nations, *les Nations-Unies*; only one Olympic competition is not *an Olympic Game* (see Coseriu 1989: 230, going back to Jespersen 1948: 64, 69, and Vandelanotte and Willemse 2002: 11-13 for the transnumeral character of proper names). Thus, while it is possible to still perceive the liaison consonant as a fossilized former plural marker in the NA-combinations at hand, lacking its semantic motivation, we think that its distribution in our data (showing up only in the NA-combinations we have found) makes it plausible to perceive it as a marker for namehood,

In order to explain (and not merely state) this fact, we can think of the following: if we assume a diachronic loss of *liaison* in NA-combinations, opposed to AN-combinations, the maintenance of the *liaison*-[z] in proper names as we have found in our corpus data looks like ‘frozen’ morphology with a new synchronic function in these items. This would be in line with general observations by Nübling (1998) on possible markers for proper names, which may sometimes stem from older morphophonological patterns that are falling out of use.³⁹ In this respect, we can understand then why proper name-like French NA-combinations such as *Jeux Olympiques* or *Nations Unies* still have the *liaison*-[z], which seems to be already lost in contemporary natural (informal) French.

5. Conclusion

In this paper we have shown in two corpus studies on contemporary phonic French (the *PFC* and *Sapperlot* corpora) that the frequently observed asymmetry in realizing the *liaison* consonant [z] in plural AN (frequent, almost categorical) vs. NA-combinations (very infrequent) holds consistently. As neither the noun nor the adjective is regularly and uniformly marked for plural in NA-combinations, we claim that there is no productive pattern of plural marking on lexical material for postnominal adjectives and their preceding nouns in phonic French (cf. Pomino 2012, forthcoming) and that the *liaison* consonant [z] in these contexts has to be interpreted differently. We have, contrary to previous studies, identified additionally significant inconsistencies for the latter group, i.e. categorical *liaison* in NA-combinations such as *Jeux Olympiques*, *Nations-Unies* and *Etats-Unies*, which all are proper names. The maintenance of this *liaison*, diachronically older than the modern absence of *liaison* in plural NA-combinations, is explained by a fixation of the whole NA-form as a proper name that has become transnumeral semantically. Based on our corpus evidence, we have formulated the hypothesis that the *liaison* consonant in these plural NA-combinations (and maybe even in comparable singular NA-combinations such as *Mont Aigu*) might have been reanalyzed as a ‘proper name marker’. In order to test this hypothesis, psycholinguistic experiments with newly coined pseudo-proper names (e.g. *Jeux Asiatiques*, see our short rather impressionistic discussion on this at the end of Section 3) will have to be run systematically in order to corroborate or refute the postulated reanalysis of *liaison* in French NA-combinations.

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³⁹ “Auf unsere Frage nach den Idealen des Eigennamens ist festzustellen, daß der Eigenname jegliche ausdrucksseitige Distanzierung zum entsprechenden Appellativ wahrnimmt (indem er das Appellativ von sich entfernen läßt) und nicht etwa vom Prinzip des analogischen Wandels Gebrauch macht.” (Nübling 1998: 247). [Trying to answer our question concerning the ideal proper name, we can state that proper names take any formal possibility available to become distinct from the corresponding common nouns (by letting the common nouns drift away from them) and not taking part in processes of analogical change.]

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